



# HOPE – SARS-CoV-2

There is currently no known drug against SARS-CoV-2, but there is HOPE (Holistic Optimization and Protein Engineering), which allows a rapid high-throughput screening for anti-COVID-19 therapeutics.

## BACKGROUND

SARS-CoV-2 is rapidly spreading despite efforts to contain or mitigate the virus. Pharmaceutical compounds to treat COVID-19 could be invaluable, but how to identify them? While computational modelling can come up with potential candidates a fast *in vivo* screening system would be required to push development to the next stage.

## TECHNOLOGY

Based on proprietary BOSS (Biotechnological Optimizations by Selection Systems; <https://www.acib.at/wp-content/uploads/28-acib-projectoffer-boss.pdf>) technology, acib is able to quickly develop an *E. coli* strain that can only grow if a viral enzyme (e.g. M<sup>pro</sup> or PL<sup>pro</sup>) is inhibited. To achieve that, the cleavage site of the viral protease is introduced into an essential *E. coli* enzyme. Thus, only by inhibition of the viral protease can cells still grow. By linking the bacteria's survival to the inhibition of a viral protein a fast (over-night) screening with an easy read-out (bacterial growth) is possible. Since it's an *in vivo* selection only compounds are identified which i) can enter the cell, ii) have no toxic effects on the cells and iii) do not unspecifically inhibit other essential host enzymes. This tool enables to identify drug candidates to efficiently combat SARS-Cov-2 infections!

## OFFER

We offer to generate HOPE for your drug screening and provide you with a detailed action plan tailored to your specific needs! This technology can also be used for other target screenings (drug targets for all kind of infectious diseases to cancer).

## EXPERTS

Prof. Dr. Rainer Schneider  
Prof. Dr. Eduard Stefan

## AVAILABLE FOR

- Joint Research Project
- Contract Research
- COMET Funding call

## DEVELOPMENT STATUS

TRL 2

## KEYWORDS

- SARS-CoV-2
- COVID-19
- Drug Resistance Profiling
- Rapid *in vivo* screening
- #fightthevirus



Foto: Pixabay

## CONTACT

acib GmbH, Krenngasse 37, 8010 Graz

☎ +43 316 873 9316

✉ [bd@acib.at](mailto:bd@acib.at)

🌐 [www.acib.at](http://www.acib.at)